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A case report: post-partum symphysiolyis, a rare complication of labour



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Made Bayu Prasetya Mulia^{1*}, Maria Florentina Tukan², Amvisena Gatot³

ABSTRACT

Background: Pubic symphyseal widening spontaneous vaginal delivery is normal. The stretch that occurs after delivery is less than 10mm. However, separation of symphysis of more than 10 mm is rare and can cause injury to the pubic bone and pelvic floor muscles. The prevalence of pubic symphysis injury is 1 in 300 to 1 in 30,000 live births. Thus, in this study we report a post-partum symphysiolyis as a complication of labour.

Case Description: A 34-year-old woman G5P4004 40th weeks gestational, came to Lewoleba Hospital, Lembata was referred with complaints of lacerations and pain in the upper pelvis after vaginal delivery of a male baby with a birth weight of 4,000 grams at the Public Health Service. On physical examination, there was a rupture of the vulva-vaginal wall anterior to the pubis with active bleeding. There is limited ROM in both lower extremities. Then an operative procedure

was carried out in the form of repair of the ruptured vulva-vaginal wall to stop the bleeding and repair the anatomical structure of the external genitalia. After the operative procedure, a pelvic radiological examination was performed, which revealed a stretch in the right and left superior ramus pubis ostium with a size of 5.5 cm. The patient underwent conservative measures by placing a splint on the pelvis for one month. After six months, a follow-up was performed, the stretch became 3.5 cm and the patient's complaints were no longer felt.

Conclusion: Symphysiolyis is a very rare obstetric complication. Complaints of pain in the pelvis that arise after childbirth, accompanied by a decrease in the ability to mobilize the lower extremities, can indicate symphysiolyis. A pelvic radiological examination confirms the diagnosis. Conservative management is the main choice in the treatment of symphysiolyis

Keywords: Symphysiolyis, Pelvic pain, Vaginal birth complication.

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¹General Practitioner, Lewoleba General Hospital, East Nusa Tenggara;

²Obstetric and Gynaecology Departement, Lewoleba General Hospital, East Nusa Tenggara;

³General Surgery Departement, Lewoleba General Hospital, East Nusa Tenggara.

*Corresponding author:

Made Bayu Prasetya Mulia;
General Practitioner, Lewoleba General Hospital, East Nusa Tenggara;
madebayu.prasetya@gmail.com

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INTRODUCTION

The pubic symphysis is a cartilaginous structure that changes during pregnancy. Relaxin and progesterone can cause stretching, thereby expanding the sagittal diameter of the pelvic inlet.¹ Radiologically, the stretch after delivery averages about 3-4mm or less than 10mm.² The high pressure during labor on the pelvic bones makes the strain wider and can cause injury to the pubic bone and pelvic floor muscles.³ The prevalence of pubic symphysis injury is reported to be 1 in 300 to 1 in 30,000 births.^{1,2}

There are several risk factors for injury to the pubic bone, such as the age of more than 35 years, macrosomic fetus (>4,000), forceps or vacuum delivery, prolonged the 2nd stage of labor or precipitous labor (<30 minutes).⁴ In addition, other risk factors include multiparity, cephalopelvic

disproportion, and history of pathological abnormalities in the pelvic bones.⁵ Management of symphysiolyis can be done operatively and conservatively. Many studies from medical literature suggested that separation of the pubic symphysis more than 10 mm or severe cases, orthopedic surgical and operative fixation may be necessary.^{4,5}

In the following case, we describe a rare obstetric case in which a 35-year-old woman suffered from an injury to the pubic bone and pelvic floor muscles. This case study aims to discover the possible causes of a hip injury and complications to increase awareness and accuracy in diagnosis and management.

CASE DESCRIPTION

A 36-year-old woman Gravid 5 Para 4-0-0-4 with a 40 weeks gestational age, was

referred to Lewoleba Hospital with chief complaints of lacerations and pain in the upper pelvis with active bleeding after vaginal delivery in the public health center. Anamnesis was carried out on the patient, she claimed to hear a cracking sound during labor, severe pain in the pelvis and was unable to move both legs. The patient's obstetric history and all previous deliveries were carried out spontaneously vaginally in 2011, 2013, 2017, and 2019 with each weight: 2,500 grams, 2,000 grams, 3,500 grams, and 3,200 grams. The patient had no previous medical history nor a history of trauma.

The patient's hemodynamics were unstable. Obstetric examination showed a flexible abdomen and uterine fundus at the level of the umbilicus with a strong contraction. Vaginal examination revealed rupture of the vulva-vaginal wall anterior extended to the pubis with active bleeding



Figure 1. Vulva-Vagina-Symphysis Pubic Rupture.



Figure 2. Symphysiolysis in this case. Strain Distance 5.5 cm.



Figure 3. Symphysiolysis After 2 weeks of Pelvic bandage. Strain Distance 4 cm.



Figure 4. Symphysiolysis Follow up after 6 months. Strain distance 3.5 cm

of ± 200 cc. Limited ROM was found in both lower extremities.

An operative procedure was carried out to repair the ruptured vulva-vaginal wall to stop the bleeding and repair the anatomical structure of the external genitalia (Figure 1). After the operative procedure, a pelvic radiological examination and a stretch image of the right and left superior ramus pubis and a size of 5.5 cm were obtained (Figure 2). Treatment can be operative or conservative. The patient underwent conservative measures in placing a pelvic bandage which was recommended for 6 months. The patient was hospitalized for 1 week and given anti-inflammatory therapy, antibiotics and analgesics. There were no signs of urinary incontinence. After 2 weeks of placing the splint, a radiological examination was carried out, it was found that the stretch was reduced

to 4 cm (Figure 3). The patient has started to be able to move his legs, then undergo regular physiotherapy to maximize his body functions. In the first month follow-up, the patient could not climb the stairs because of the pain. Then a follow-up was performed after six months, pelvic radiology examination revealed a stretch of 3.5 cm and no complaints were felt at all (Figure 4). The patient was advised to undergo surgery but decided to be treated conservatively.

DISCUSSION

Symphysiolysis in normal vaginal delivery is a rare condition. The incidence is reported 1 in 300 to 1 in 30,000 deliveries.^{2,6} Generally, the symptoms include pain around the pubis radiating to the thighs, tenderness, edema, hematoma and limitation of movement in the lower

extremities, with “pop” during labour.⁷ In this case, the patient complained of severe pelvic pain and could not move both lower extremities. On physical examination, there was a rupture of the pubis to the anterior vagina and a hematoma on the labia majora.

The pubic symphysis is composed of hyaline cartilage and soft fibrous cartilage. During pregnancy, especially in the first trimester and during labour, the hormones progesterone and relaxin cause the pelvic structures to loosen, making it easier for labor.^{8,9} Physiologically, the stretch size occurs in about 3-5 mm and can return to its original position if there are no complications during labour within 5 months.¹

Several studies report that there are several risk factors for symphysiolysis. Kearney R et al., in 2006 reported risk factors including age over 35 years, macrosomia fetus ($>4,000$), forceps or vacuum delivery, the prolonged second stage of labour or precipitous labour (<30 minutes).⁴ Jayaraman JK et al., in 2015 reported multiparity, cephalopelvic disproportion, and a history of pathological pelvic bone abnormalities are other risk factors.⁵ In the following cases, the patient’s risk factors were age over 35 years, multigravida, and macrosomia.

The diagnosis of symphysiolysis was confirmed using a simple radiographic technique, namely an AP pelvic. The strain that occurs can be easily observed.¹⁰ In addition, an ultrasound examination can be done because the distance between the bones that make up the pubis and the soft tissue above it is quite close so that it can provide a clear enough picture to assess the condition of the pubic symphysis.¹¹ CT and MRI examinations can also be used for other radiological examinations. CT and MRI can provide a fairly clear picture of soft tissue injury and can see edema in the bone, especially in the subchondral layer. MRI is the best choice for use, especially during pregnancy.¹

Based on previous studies, the management of post-partum symphysiolysis is non-operative, but close follow-up is required to assess the effectiveness of this conservative therapy.¹⁰ Operative management is performed when complaints do not subside or activity

limitations persist. The most common procedure is anterior fixation.¹²

A cohort study conducted by Hagen et al. in 23 patients who underwent symphysiolysis after delivery (19 patients had a stretch of less than 5mm): 15 patients received conservative management, 8 other patients underwent surgery, 2 patients were plated on the anterior symphysis, 4 of whom had sacroiliac arthrodesis, and 2 others received both operations. Surgery is recommended in cases of symphysiolysis with a strain of more than 10 mm.¹⁰ In addition, Hierholzer et al., reported that surgery is recommended in patients with a symphysis stretch of more than 2.5 cm.¹¹

In the following case, conservative measures were carried out, placing a splint on the pelvis for 1 month. Then follow-up was done in the first 2 weeks, 1 month and 6 months. Patients also receive therapy by physiotherapy to return body functions to normal.

Our study had a few limitations, such as an MRI scan could not perform for this case to evaluate other soft-tissue damage around the pubic symphysis due to being in remote areas. So, further study with a prospective design, instead of a case study, is required to validate the recent findings.

CONCLUSION

Symphysiolysis is a rare obstetrics complication. Chief complaints of pain in the pelvis that arise after childbirth, accompanied by a decrease in the ability to mobilize the lower extremities, can indicate symphysiolysis. A pelvic radiological examination confirms the diagnosis. Conservative management can be used as the main choice in treating symphysiolysis.

ACKNOWLEDGMENT

The woman whose story is told in this case report has provided written consent for its publication.

CONFLICT OF INTEREST

There is no conflict of interest in this study.

ETHICS CONSIDERATION

This case study follows COPE and ICMJE protocols regarding publication ethics. Informed consent has been received prior to the case study being conducted.

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AUTHOR CONTRIBUTION

All authors equally contribute to the study from the conceptual framework, data acquisition, and data analysis until reporting the outcome through a case study.

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